

IN THE CLAIMS:

Please cancel claims 1-20.

Please add the following new claims:

21. (New) A digital signature formed by the steps of:

generating shares of a private signature key;

storing shares in separate electronic signing devices;

certifying multiple authorizing agents for signing devices; and

for each of a plurality of signing devices, affixing a partial signature to an electronic message in response to authorization from a minimum number of authorizing agents; wherein a plurality of partial signatures constitutes a digital signature.

22. (New) The digital signature of claim 21, wherein said plurality of signing devices affix the plurality of partial signatures to the message in accordance with a method comprising the steps of:

transmitting said message to a first of said plurality of signing devices said first signing device thereafter affixing a first partial signature to said message; and

transmitting said message having said first partial signature to a second of said plurality of signing devices said second signing device thereafter affixing a second partial signature to said message.

23. (New) The digital signature of claim 22, wherein said transmitting step is repeated for each of said plurality of signing devices.

24. (New) The digital signature of claim 23, wherein said plurality of signing devices is a quorum of the signing devices that have stored shares of the private signature key.

25. (New) The digital signature of claim 24, wherein the quorum of signing devices necessary to form said digital signature may be modified while maintaining the same private signature key by redistributing shares of the private signature key in accordance with a method comprising the steps of:

recombining the shares from each of said signing devices to form the private signature key;

generating new shares of the private signature key such that the quorum of shares necessary to form a digital signature is modified as desired; and

storing the new shares in separate electronic signing devices.

26. (New) The digital signature of claim 25, wherein the quorum is modified by increasing the number of partial signatures necessary to form a digital signature.

27. (New) The digital signature of claim 26, wherein the quorum is modified by increasing the number of signing devices.

28. (New) The digital signature of claim 21, wherein a plurality of authorizing agents are assigned to at least one of said electronic signing devices; and

wherein authorization from a quorum of said plurality of authorizing agents is required for said electronic device to affix said partial signature.

29. (New) The digital signature of claim 21, wherein said plurality of signing devices affix the plurality of partial signatures to the message in accordance with a method comprising the steps of:

transmitting said message separately to each of said plurality of signing devices and affixing a partial signature to said message at each of said plurality of signing devices to form a plurality of messages having partial signatures; and

combining said plurality of messages having partial signatures to form said message having said digital signature.

30. (New) The digital signature of claim 29, wherein said plurality of signing devices is a quorum of said signing devices that have stored shares of the private signature key.

31. (New) The digital signature of claim 21, wherein the digital signature comprises a value derived by combining the plurality of partial signatures.

32. (New) A partial digital signature used in a digital signing method, said digital signing method comprising steps of:

generating shares of a private signature key;

storing shares in separate electronic signing devices;

certifying multiple authorizing agents for signing devices; and

for each of a plurality of signing devices, affixing a partial signature to an electronic message in response to authorization from a minimum number of authorizing agents;

wherein a plurality of partial signatures constitutes a digital signature.

33. (New) The partial signature of claim 32, wherein said plurality of signing devices affix the plurality of partial signatures to the message in accordance with a method comprising the steps of:

transmitting said message to a first of said plurality of signing devices said first signing device thereafter affixing a first partial signature to said message; and

transmitting said message having said first partial signature to a second of said plurality of signing devices said second signing device thereafter affixing a second partial signature to said message.

34. (New) The partial signature of claim 33, wherein said transmitting step is repeated for each of said plurality of signing devices.

35. (New) The partial signature of claim 34, wherein said plurality of signing devices is a quorum of the signing devices that have stored shares of the private signature key.

36. (New) The partial signature of claim 35, wherein the quorum of signing devices necessary to form said digital signature may be modified while maintaining the same private signature key by redistributing shares of the private signature key in accordance with a method comprising the steps of:

recombining the shares from each of said signing devices to form the private signature key;

generating new shares of the private signature key such that the quorum of shares necessary to form a digital signature is modified as desired; and

storing the new shares in separate electronic signing devices.

37. (New) The partial signature of claim 36, wherein the quorum is modified by increasing the number of partial signatures necessary to form a digital signature.

38. (New) The partial signature of claim 37, wherein the quorum is modified by increasing the number of signing devices.

39. (New) The partial signature of claim 32, wherein a plurality of authorizing agents are assigned to at least one of said electronic signing devices; and

wherein authorization from a quorum of said plurality of authorizing agents is required for said electronic device to affix said partial signature.

40. (New) The partial signature of claim 32, wherein said plurality of signing devices affix the plurality of partial signatures to the message in accordance with a method comprising the steps of:

transmitting said message separately to each of said plurality of signing devices and affixing a partial signature to said message at each of said plurality of signing devices to form a plurality of messages having partial signatures; and

combining said plurality of messages having partial signatures to form said message having said digital signature.

41. (New) The partial signature of claim 40, wherein said plurality of signing devices is a quorum of said signing devices that have stored shares of the private signature key.

42. (New) The partial signature of claim 32, wherein the digital signature comprises a value derived by combining the plurality of partial signatures.